

## Appendix 2 - Code List: IR / RS232 / DDC Data

## 1. Remote Control Code

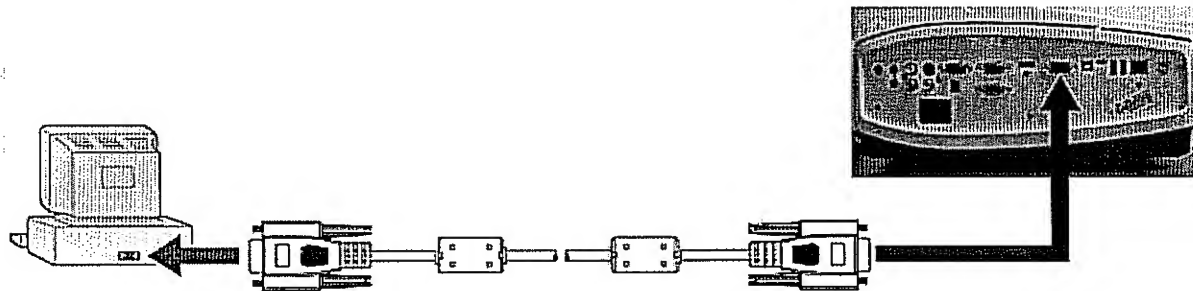
Key	Function	Description	Code	ID and Protocol
1	Power	Power on/off toggle	0x02	Frequency 38 KHz
2	Freeze	Freeze video	0x03	Protocol NEC Format
3	Menu/Exit	OSD Menu On/Off	0x0F	Custom Code 0x0030
4	▲ / Keystone +	1.Up Key for OSD Menu 2.Keystone Correction Increment	0x0B	
5	Auto	Auto Adjustment for phase, Tracking, Size, Position	0x08	
6	◀ / Q?	1.Left Key for OSD Menu 2.Show Main "Information" Menu	0x0D	
7	Mode/Enter	1.Choose a Suitable Preset Mode for Usage Environment 2.Enter Key for OSD Menu	0x10	
8	▶ / Panel key lock	1. Right Key for OSD Menu. 2. Enter "Panel Key Lock" Setting.	0x0E	
9	Blank	Display Blank	0x07	
10	▼ / Keystone -	1.Down Key for OSD Menu 2. Keystone Correction Decrement.	0x0C	
11	Source	Input Source Selection	0x04	
12	Volume +	Speaker Volume Increment	0x82	
13	Volume -	Speaker Volume Decrement	0x83	

14	Digital Zoom In	Zoom In	0x18
15	Digital Zoom Out	Zoom Out	0x19
16	Page Up	Page Up Key for Emulation of Keyboard	0x05
17	Page Down	Page Down Key for Emulation of Keyboard	0x06
18	Timer On	Enable/Disable "Presentation Timer" Function	0x25
19	Timer Set Up	Enter "Presentation Timer" Setting	0x26

## 2. RS232 code table

### 2.1 Connection:

Below shows the illustration of connection between PC and Projector.



#### <CAUTION>

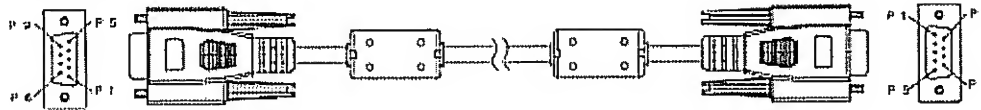
◆ Make sure that your computer and projector are turned off before connection.

◆ Power on the computer first, and then plug the power cord of the projector. (It may cause Com port incorrect function, if you do not follow this instruction)

◆ Adapters may be necessary depending on the PC connected to this projector. Please contact with your dealer for further details.

## 2.2 Hardware connection

<Download cable part number/diagram>



### D-Sub 9 pin

1	1 CD
2	RXD
3	TXD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	RI

### Wire List

C1	COLOR	C2
1	Black	1
2	Brown	3
3	Red	2
4	Orange	4
5	Yellow	5
6	Green	6
7	Blue	8
8	Purple	7
9	White	9
SHELL	DW	SHELL

Baud Rate: 115200

Parity Bit: none

Data Bit: 8

Stop Bit: 1

Assign Port: COM1

## 2.3 Command Category

Function	Type	Operation	ASCII
Power	Write	Power On	<CR>*pow=on#<CR>
	Write	Power off	<CR>*pow=off#<CR>
	Read	Power Status	<CR>*pow=?#<CR>
Source Selection	Write	COMPUTER/YPbPr	<CR>*sour=RGB#<CR>
	Write	COMPUTER 2/YPbPr2	<CR>*sour=RGB2#<CR>
	Write	Component	<CR>*sour=ypbr#<CR>
	Write	DVI-A	<CR>*sour=dviA#<CR>
	Write	DVI-D	<CR>*sour=dvid#<CR>
	Write	HDMI	<CR>*sour=hdmi#<CR>
	Write	HDMI 2	<CR>*sour=hdmi2#<CR>
	Write	Composite	<CR>*sour=vid#<CR>
	Write	S-Video	<CR>*sour=svid#<CR>

Audio Control	Read	Current source	<CR>*sour=?#<CR>
	Write	Mute On	<CR>*mute=on#<CR>
	Write	Mute Off	<CR>*mute=off#<CR>
	Read	Mute Status	<CR>*mute=?#<CR>
	Write	Volume +	<CR>*vol=+#<CR>
	Write	Volume -	<CR>*vol=-#<CR>
Picture Mode	Read	Volume Status	<CR>*vol=?#<CR>
	Write	Dynamic	<CR>*appmod=dynamic#<CR>
	Write	Presentation	<CR>*appmod=preset#<CR>
	Write	sRGB	<CR>*appmod=srgb#<CR>
	Write	Cinema	<CR>*appmod=cine#<CR>
	Write	Standard	<CR>*appmod=std#<CR>
	Write	User1	<CR>*appmod=user1#<CR>
	Write	User2	<CR>*appmod=user2#<CR>
Picture Setting	Read	Picture Mode	<CR>*appmod=?#<CR>
	Write	Contrast +	<CR>*con=+#<CR>
	Write	Contrast -	<CR>*con=-#<CR>
	Read	Contrast value	<CR>*con=?#<CR>
	Write	Brightness +	<CR>*bri=+#<CR>
	Write	Brightness -	<CR>*bri=-#<CR>
	Read	Brightness value	<CR>*bri=?#<CR>
	Write	Color +	<CR>*color=+#<CR>
	Write	Color -	<CR>*color=-#<CR>
	Read	Color value	<CR>*color=?#<CR>
	Write	Sharpness +	<CR>*sharp=+#<CR>
	Write	Sharpness -	<CR>*sharp=-#<CR>
	Read	Sharpness value	<CR>*sharp=?#<CR>
	Write	Aspect 4:3	<CR>*asp=4:3#<CR>
	Write	Aspect 16:9	<CR>*asp=16:9#<CR>
	Write	Aspect Auto	<CR>*asp=AUTO#<CR>
	Write	Aspect Real	<CR>*asp=REAL#<CR>
	Write	Aspect Letterbox	<CR>*asp=LBOX#<CR>
	Write	Aspect Wide	<CR>*asp=WIDE#<CR>
Baud Rate	Write	Zoom In	<CR>*zoomI#<CR>
	Write	Zoom out	<CR>*zoomO#<CR>
	Write	Auto	<CR>*auto#<CR>
	Write	2400	<CR>*baud=2400#<CR>
Baud Rate	Write	4800	<CR>*baud=4800#<CR>
	Write	9600	<CR>*baud=9600#<CR>

	Write	14400	<CR>*baud=14400#<CR>
	Write	19200	<CR>*baud=19200#<CR>
	Write	38400	<CR>*baud=38400#<CR>
	Write	57600	<CR>*baud=57600#<CR>
	Write	115200	<CR>*baud=115200#<CR>
	Read	Current Baud Rate	<CR>*baud=?#<CR>
Lamp Control	Read	Lamp Hour	<CR>*ltim=?#<CR>
	Write	Normal mode	<CR>*lampm=lnor#<CR>
	Write	Economic mode	<CR>*lampm=eco#<CR>
	Read	Lamp Mode Status	<CR>*lampm=?#<CR>
Miscellaneous	Write	Blank On	<CR>*blank=on#<CR>
	Write	Blank Off	<CR>*blank=off#<CR>
	Read	Blank Status	<CR>*blank=?#<CR>
	Write	Freeze On	<CR>*freeze=on#<CR>
	Write	Freeze Off	<CR>*freeze=off#<CR>
	Read	Freeze Status	<CR>*freeze=?#<CR>
	Write	Menu On	<CR>*menu=on#<CR>
	Write	Menu Off	<CR>*menu=off#<CR>
	Write	Up	<CR>*up#<CR>
	Write	Down	<CR>*down#<CR>
	Write	Right	<CR>*right#<CR>
	Write	Left	<CR>*left#<CR>
	Write	Enter	<CR>*enter#<CR>

### 3. DDC Data

BYTES OF EDID CODE:

128 0 1 2 3 4 5 6 7 8 9

0		00	FF	FF	FF	FF	FF	FF	00	09	D1
10		01	CA	01	00	00	00	18	14	01	03
20		0E	00	00	78	0A	9F	98	A0	5B	56
30		91	25	11	4F	5D	BD	EF	80	81	FC
40		45	7C	61	7C	61	C0	81	80	95	00
50		90	40	A9	40	9E	20	00	90	51	20
60		1F	30	48	80	36	00	00	00	00	00
70		00	1C	00	00	00	FD	00	30	78	1F

80 | 63 11 00 0A 20 20 20 20 20 20  
 90 | 00 00 00 FE 00 42 45 4E 51 0A  
 100 | 20 20 20 20 20 20 20 20 00 00  
 110 | 00 FC 00 4D 50 37 38 30 53 54  
 120 | 0A 20 20 20 20 20 00 0D

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 2010/10/12

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(08-09) ID Manufacturer Name \_\_\_\_\_ = BNQ

(10-11) Product ID Code \_\_\_\_\_ = 01C9

(12-15) Last 5 Digits of Serial Number \_\_\_\_\_ = 00001

(16) Week of Manufacture \_\_\_\_\_ = 24

(17) Year of Manufacture \_\_\_\_\_ = 2010

(18) EDID Version Number \_\_\_\_\_ = 1

(19) EDID Revision Number \_\_\_\_\_ = 3

(20) VIDEO INPUT DEFINITION:

Analog Signal

0.700, 0.300 (0.700 Vp-p)

Separate Syncs, Composite Sync, Sync on Green,

Serration of the Vsync

(21) Maximum Horizontal Image Size \_\_\_\_\_ = 300mm

(22) Maximum Vertical Image Size \_\_\_\_\_ = 400mm

(23) Display Gamma \_\_\_\_\_ = 2.20

(24) Power Management and Supported Feature(s):

Preferred Timing Mode

Display Type = R/G/B Color

(25-34) CHROMA INFO:

Red X - 0.627 Green X - 0.339 Blue X - 0.147 White X - 0.311

Red Y - 0.356 Green Y - 0.569 Blue Y - 0.067 White Y - 0.363

(35) ESTABLISHED TIMING I:

720 X 400 @ 70Hz (VGA)

640 X 480 @ 60Hz (VGA)

640 X 480 @ 67Hz (Mac II)

640 X 480 @ 72Hz (VESA)

640 X 480 @ 75Hz (VESA)

800 X 600 @ 60Hz (VESA)

(36) ESTABLISHED TIMING II:

800 X 600 @ 72Hz (VESA)

800 X 600 @ 75Hz (VESA)

832 X 624 @ 75Hz (Mac II)

1024 X 768 @ 60Hz (VESA)

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BenQ Confidential KYang 2010/10/12	1024 X 768 @ 70Hz (VESA) 1024 X 768 @ 75Hz (VESA) 1280x1024 @ 75Hz (VESA)	BenQ Confidential KYang 2010/10/12	BenQ Confidential KYang 2010/10/12
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(37) Manufacturer's Reserved Timing:  
1152 X 870 @ 75Hz (Mac II)

(38-53) Standard Timing Identification:

1024 X 768 @120Hz

1024 X 576 @60Hz

BenQ Confidential KYang 2010/10/12	1280 X 1024 @60Hz 1280 X 800 @120Hz 800 X 600 @120Hz 1440 X 900 @60Hz 1400 X 1050 @60Hz 1600 X 1200 @60Hz	BenQ Confidential KYang 2010/10/12	BenQ Confidential KYang 2010/10/12
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(54-71) Detailed Timing / Descriptor Block 1:

1280x800 Pixel Clock: 83.50 MHz

BenQ Confidential KYang 2010/10/12	Horizontal Image Size: 0 mm Refreshed Mode: Non-Interlaced	BenQ Confidential KYang 2010/10/12	Vertical Image Size: 0 mm Normal Display - No Stereo	BenQ Confidential KYang 2010/10/12
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Horizontal:

Active Time: 1280 pixels

Blanking Time: 400 pixels

Sync Offset: 72 pixels

Sync Pulse Width: 128 pixels

Border: 0 pixels

Frequency: 48.36 KHz

Vertical:

BenQ Confidential KYang 2010/10/12	Active Time: 800 lines Sync Offset: 3 lines Border: 0 lines	BenQ Confidential KYang 2010/10/12	Blanking Time: 31 lines Sync Pulse Width: 6 lines Frequency: 60.00 Hz	BenQ Confidential KYang 2010/10/12
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Digital Separate, Horizontal Polarity (-) Vertical Polarity (-)

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(72-89) Detailed Timing / Descriptor Block 2:

BenQ Confidential KYang 2010/10/12	Monitor Serial Number: 1	BenQ Confidential KYang 2010/10/12	BenQ Confidential KYang 2010/10/12	BenQ Confidential KYang 2010/10/12
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(90-107) Detailed Timing / Descriptor Block 3:

BenQ Confidential KYang 2010/10/12	<b>Monitor Range Limits:</b> Min Vertical Freq - 48 Hz Max Vertical Freq - 120 Hz Min Horiz. Freq - 31 KHz Max Horiz. Freq - 99 KHz Pixel Clock - 170 MHz Secondary GTF – Not Supported	BenQ Confidential KYang 2010/10/12	BenQ Confidential KYang 2010/10/12
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BenQ Confidential KYang 2010/10/12	<b>(108-125) Detailed Timing / Descriptor Block 4:</b> Monitor Name: MP780ST	BenQ Confidential KYang 2010/10/12	BenQ Confidential KYang 2010/10/12
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- (126) No Extension EDID Block(s)  
(127) CheckSum OK

BenQ Confidential KYang 2010/10/12	BenQ Confidential KYang 2010/10/12	BenQ Confidential KYang 2010/10/12	BenQ Confidential KYang 2010/10/12
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BenQ Confidential KYang 2010/10/12	BenQ Confidential KYang 2010/10/12	BenQ Confidential KYang 2010/10/12	BenQ Confidential KYang 2010/10/12
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BenQ Confidential KYang 2010/10/12	BenQ Confidential KYang 2010/10/12	BenQ Confidential KYang 2010/10/12	BenQ Confidential KYang 2010/10/12
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